REMARKS/ARGUMENTS

In view of the foregoing amendments and the following remarks, the applicants respectfully submit that the pending claims are not anticipated under 35 U.S.C. § 102 and are not rendered obvious under 35 U.S.C. § 103. Accordingly, it is believed that this application is in condition for allowance. **If, however, the Examiner believes that there are any unresolved issues, or believes that some or all of the claims are not in condition for allowance, the applicants respectfully request that the Examiner contact the undersigned to schedule a telephone Examiner Interview before any further actions on the merits.**

The applicants will now address each of the issues raised in the outstanding Office Action.

Improper Final Office Action

Page 7 of Paper No. 18 made the Office Action final. The Examiner stated that the applicant's amendment necessitated the new grounds of rejection, and that this served as the basis for making the Office Action final. This is clearly not the case. In the previous amendment dated May 27, 2003, only claims 9 and 15 were amended. Both of these claims were allowed. Accordingly, the new grounds of rejection presented were not necessitated by the amendments. Accordingly, the finality of the Office Action is improper and should be withdrawn.

Rejections under 35 U.S.C. § 102

Claims 1, 2, 5, 6 and 31 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,088,090 ("the Yacoby patent"). The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Independent claims 1 and 5 are not anticipated by the Yacoby patent because the Yacoby patent does not teach that packets sourced from client devices have at least a part of a layer 2 header replaced with a unique bit string that is independent of the contents of the received packets. Further, claim 5 is not anticipated because the Yacoby patent does not forward a packet to a queue associated with a service level. These claims are reprinted below with these features depicted in bold typeface.

> 1. A method for provisioning services to packets sourced from a number of client devices, **each of the packets having at least a part of a layer 2 header replaced with a unique bit string that is independent of the contents of the received packets**, the method comprising:
>   a) determining whether or not the packet is entitled to access a particular service **using at least a portion of the unique bit string**; and
>   b) if it is determined that the packet is entitled to access the particular service, then routing the packet. [Emphasis added.]
>
> 5. A method for providing various quality of service levels to packets sourced from a number of client devices, **each of the packets having at**

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**least a part of a layer 2 header
replaced with a unique bit string that
is independent of the contents of the
packets**, the method comprising:
  a) determining a service level to
  which the packet is entitled **using
  at least a portion of the unique
  bit string**; and
  b) **forwarding the packet to a
  queue associated with the service
  level determined**. [Emphasis
  added.]

Each of these features is addressed below. First, however,
the Yacoby patent is briefly discussed.

The Yacoby patent concerns a device in one LAN sending
data to a device in another LAN. (See, e.g., column 1,
lines 31-52.) In particular, the Yacoby patent concerns
MAC-layer interconnection. (See, e.g., column 2, lines 3
and 4.) MAC-layer interconnection can be performed using
one of two methods - transparent routing, in which a bridge
or router forwards a datagram using look-up tables, and
source routing, in which a bridge or router forwards a
datagram using forwarding information within the datagram
itself. (See, e.g., column 2, lines 5-31.) The Yacoby
patent addresses the problem that bridges or routers would
only support one MAC-layer interconnection method or the
other, but not both. (See, e.g., column 2, lines 32-41.)

Briefly stated, the Yacoby patent discusses a device
which (i) performs an identification test on each packet,
and (ii) if the packet was transmitted from a source
routing node, then the bridge applies the source routing
protocol (e.g., using appropriate LAN numbers in the
routing field of the packet to forward), but (iii) if the
packet was not transmitted from a source routing node, then
the bridge applies the transparent routing protocol (e.g.,

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using their self-learned look-up tables to forward). (See, e.g., column 5, lines 1-38, and elements 74, 76, and 78 of Figure 3.) The identification test simply uses a single bit in the MAC layer header. (See, e.g., Figure 2 and column 5, lines 53-59.) More specifically, the Yacoby patent states:

> If the source routing identifier is a logical 1, then the packet of information has a source routing field and uses the source routing method. On the other hand, if the source routing identifier is a logical 0, then there is not source routing field in the packet and transparent routing is applied to the packet information.

Column 5, lines 53-59. Accordingly, the Jacoby patent uses a **single bit of a layer 2 header** to determine which of two MAC-layer interconnection methods to use. This is different than using a unique **bit string, which replaced at least a portion of a layer 2 header**, to determine whether or not a packet is entitled to access a particular service, as recited in claim 1, or to determine a service level and forwarding the packet to a queue associated with the determined service level as recited in claim 5. Accordingly, independent claims 1 and 5 are not anticipated by the Yacoby patent for at least this reason. Since claims 2 and 31 depend from claim 1 and since claim 6 depends from claim 5, these claims are similarly not anticipated by the Yacoby patent.

Further with regard to independent claim 5, the Yacoby patent does not teach forwarding a packet to a particular queue based on a service level. Indeed, the Examiner does not address this recitation in the Office Action.

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Accordingly, independent claim 5 is not anticipated by the Yacoby patent for at least this additional reason. Since claim 6 depends from claim 5, it is similarly not anticipated by the Yacoby patent.

Dependent claims 2 and 6 are further not anticipated by the Yacoby patent. The Examiner cites column 1, lines 53-59 as teaching that at least a portion of a unique bit string represents one of a number of logical interfaces. (See, e.g., Paper No. 18, page 3.) First, the cited section merely discusses the use of layer-3 (i.e., Network layer) information in a datagram to forward datagram. Moreover, the cited section concerns a "network layer interconnection method", which is different than the MAC-layer interconnection method of interconnecting two LANs. (See, e.g., column 1, lines 31-59.) However, the Yacoby patent only relates to MAC-layer interconnection, not to network layer interconnection. (See, e.g., column 2, lines 3 and 4.) Accordingly, dependent claims 2 and 6 are not anticipated by the Yacoby patent for at least this additional reason.

Rejections under 35 U.S.C. § 103

Claims 3, 4, 7, 8, 16 and 18

Claims 3, 4, 7, 8, 16 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Yacoby patent in view of U.S. Patent No. 5,946,313 ("the Allan patent"). The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

The Examiner concedes that the Yacoby patent does not teach that at least a portion of the unique bit string

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corresponds to a virtual private network-organizational universal identifier or a virtual private network-INDEX, asserts that the Allan patent teaches these features (citing a source MAC ID field), and asserts that it would have been obvious to combine the two "to uniquely identify the manufacturing organization that manufactures the equipment." Paper No. 18, page 4. The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection for at least three reasons.

First, the purported teaching of the Allan patent does not compensate for the deficiencies of the Yacoby patent with respect claims 1 and 5, addressed above. Accordingly, even assuming, arguendo, that one skilled in the art would have been motivated to combine the purported teachings of the Allan patent with those of the Yacoby patent, the combined teachings still would neither teach, nor suggest, (i) that packets sourced from client devices have at least a part of a layer 2 header replaced with a unique bit string that is independent of the contents of the received packets, and (ii) (with respect to claims 7 and 8 which depend from claim 5) forwarding a packet to a queue associated with a service level.

Second, one skilled in the art would not have been motivated to combine the purported teachings as proposed by the Examiner. The Examiner states that the ability to uniquely identify the manufacturing organization that manufactures the equipment would have motivated one skilled in the art to combine the purported teachings. Yet, it is unclear why the bridge of the Yacoby patent would care about who manufactured equipment that sourced a packet. It is unclear how the bridge would use such information, or be

improved by having such information. Accordingly, claims
3, 4, 7, 8, 16 and 18 are not rendered obvious by the
Yacoby and Allan patents for at least this reason.

Third, a source MAC ID field is not a virtual private
network-organizational universal identifier ("VPN-OUI"),
nor is it a virtual private network-INDEX. A source MAC ID
field does not identify a VPN. Moreover, an OUI is used to
identify an organization which administers the VPN, not a
manufacturer that builds MAC equipment. Accordingly,
claims 3, 4, 7, 8, 16 and 18 are not rendered obvious by
the Yacoby and Allan patents for at least this reason.

In the Allan patent, information (e.g., an ATM
Organizationally Unique Identifier ("OUI"), ATM Virtual
Path Identifier ("VPI"), ATM Virtual Channel Identifier
("VCI")) is merely inserted into the layer 2 header of a
newly generated packet or frame -- it does not "replace"
information in existing packets as recited in the claims.
"Replace" as used in the claims has its ordinary meaning of
"to take the place of" since there is already an existing
packet with an existing layer 2 header. This is different
from the Allan patent which inserts information in a newly
generated Ethernet frame. More specifically, the Allan
patent states:

> an end station 39, 39', 39'' generates
> an outgoing frame 3, with the
> destination MAC indicating the ATM OUI
> address of E-MUX 21, rather than the
> address of another end station in the
> Ethernet network 25.

Column 8, lines 21-25. To reiterate, information
originally in a header is not being replaced -- it is not
used in the first place and therefore cannot be replaced.

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Accordingly, the claims are not rendered obvious by the Yacoby and Allan patents for at least this additional reason.

Claims 17-19

Claims 17-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Yacoby patent in view of U.S. Patent No. 6,035,405 ("the Gage patent"). The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

First, although the Gage patent discloses that security may be based on (i) a shared broadcast/multicast address, (ii) **an access port identifier**, (iii) a MAC source address, or (iv) an IP address, **it expressly teaches away from using such measures for security**, and instead proposes using an authentication server (AS) to "test" a newly connected end station. (See, e.g., column 2, lines 27-43 and column 5, lines 21-38.) More specifically, with regard to using an access port identifier, the Gage patent states:

> this does not prevent an intruder from
> disconnecting a legitimate end station
> and connecting an illegitimate one to
> the same physical port. Once
> connected, the illegitimate end station
> has access to possibly confidential
> information circulating within the
> VLAN.

Column 1, lines 48-53. As can be appreciated from the foregoing, the Gage patent clearly and strongly teaches away from using packet information for security, and therefore for making a determination of an end station in a

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VLAN (which is the motivation for combining the references offered by the Examiner). Indeed, this is the reason the Gage patent proposes using an authentication server to administer a key-based challenge-response test, passwords, synchronized security cards, voice printing, or fingerprinting. (See, e.g., column 5, lines 21-38.) Accordingly, claims 17 and 19 are not rendered obvious by the Yacoby and Gage patents for at least this reason.
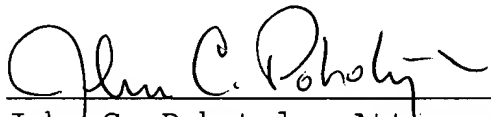
New claims

New claim 32 depends from claim 1 and new claims 33 and 34 depend from claim 5. New claim 32 further recites that the packet is routed **only if** it is determined that the packet is entitled to access the particular service. Even taking the Examiner's definition of service level to include "source routing" or "transparent routing," in the Yakoby patent, the packet is routed in either case, the only difference being whether information in the packet or information in the bridge is used for routing. New claim 33 further recites the service level is a quality of service level, and new claim 34 further recites that the quality of service level is represented by a plurality of bits. Even taking the Examiner's definition of service level to include "source routing" or "transparent routing," source routing and transparent routing are not quality of service levels and are represented by only one bit. Accordingly, these claims further define the invention over the cited art.

Conclusion

In view of the foregoing amendments and remarks, the applicants respectfully submit that the pending claims are in condition for allowance. Accordingly, the applicants request that the Examiner pass this application to issue.

Respectfully submitted,

November 13, 2003

By: John C. Pokotylo, Attorney
Reg. No. 36,242
For: Loren Swingle, Attorney
Reg. No. 32,764
Tel.: (732) 542-9070

CERTIFICATE OF MAILING under 37 C.F.R. 1.8(a)

I hereby certify that this correspondence is being deposited on **November 13, 2003** with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

John C. Pokotylo

36,242

Reg. No.